Space Missile Defense Command
Test and Evaluation
Cost Management

Space and Missile Defense Command

31 March 00

Encl 2

Section I: Business Area Organization

1.01.1 Description

1.011 Business Area Name/Organization:
Test and Evaluation
U.S. Army Space & Missile Defense Command
Space & Missile Defense Acquisition Center
U.S. Army Kwajalein Atoll / Kwajalein Missile Range (SMDC-AC-K)
High Energy Laser Systems Test Facilities (SMDC-AC-H)

1.012 Address:
U.S. Army Kwajalein Atoll/Kwajalein Missile Range
PO Box 26, SMDC-AC-K
APO AP 96555-2526

High Energy Laser Systems Test Facility (HELSTF)
USA SMDC
HELSTF Directorate SMDC-AC-H
White Sands Missile Range, NM 88002-5148

1.013 POCs:
SMDC, (256) 955-3612, Jack.Calvert@smdc.army.mil
Acquisition Center, (256) 955-2741, Jeanine.Miami@usaka.smdc.army.mil
USAKA/KMR, (805) 355-1043, Fax 1182, Mike.Reid@usaka.smdc.army.mil
USAHELSTF, (505) 679-5125, Fax 5068, Chris.Poor@helstf.wsmr.army.com

1.02 Mission Statement:
USAKA:

The mission of the Kwajalein Missile Range (KMR) is to provide a Major Range Test Facility Base (MRTFB) activity on Kwajalein Atoll and Wake Island to support:

Operational and Developmental Testing of
Theater Ballistic Missiles
Strategic Ballistic Missiles
Theater and Strategic Missile Interceptors

NASA Space Operations and Experiments

U.S. Space Command
Near Earth Surveillance
Deep Space Surveillance
Satellite Tracking &
New Foreign Launch Coverage

A World Class Range...The U.S. Army's Kwajalein Missile Range is a premiere asset within the Department of Defense Major Range and Test Facility Base. The unquestioned

value of KMR to the MRTFB is based upon its strategic geographical location, unique instrumentation, and unsurpassed capability to support ballistic missile testing and space operations. With nearly 40 years of successful support, KMR provides a vital role in the research, development, test and evaluation effort of America's missile defense and space programs.

KMR Instrumentation
KMR hosts a suite of unique instrumentation, located on eight islands throughout the Kwajalein atoll. This instrumentation includes a comprehensive suite of precision metric and signature radars, optical sensors, telemetry receiving stations, and impact scoring assets. KMR provides both mobile and fixed ground and flight safety instrumentation. With KMR's state of the art Mission Control Center and its vast range complex, the KMR sensors provide unparalleled capabilities to optimize ballistic missile & ballistic missile interceptor testing.

KMR provides complete base support facilities, including logistics, air, and marine services as well as community services for visiting mobile sensors and Range users.

HELSTF:
High Energy Laser Systems Test Facility
Unique Laser Testing Capability

The High Energy Laser Systems Test Facility, or HELSTF, located at White Sands Missile Range, N.M., operates the nation's most powerful laser in support of Department of Defense laser research, development, test, and evaluation.

Capabilities

The Test Facility represents an approximately $800 million investment in High Energy Laser research and includes such unique capabilities as:

- **Mid-Infrared Advanced Chemical Laser (MIRACL):** Originally built by TRW, Inc., for the U.S. Navy, the MIRACL has proved that chemical laser technology can be scaled to multimegawatt power levels. After 15 years of operation, the MIRACL remains the highest power chemical laser in the Western Hemisphere.

- **Sea Lite Beam Director:** A high-precision pointer-tracker system built by Hughes Aircraft Company for the U.S. Navy, the Sea Lite Beam Director provides the capability to track highly maneuverable tactical targets and destroy them with the MIRACL. The infrared optics on the beam director also serve as a high-resolution infrared imaging system that can record data of missile tests conducted at the White Sands Missile Range.

- **Beam Transfer Area:** The Beam Transfer Area permits a large number of simultaneous tests during each MIRACL firing. The BTA can also switch

the MIRACL beam between any of the numerous test areas at HELSTF, reducing the test costs to the individual customers.

- **Effects Test Area:** Provides an indoor, controlled laboratory test environment for evaluating laser effects on materials and small (less than one meter) components.

- **Hazardous Test Area:** Located 900 meters downrange from the MIRACL, the Hazardous Test Area is used for large targets or targets that explode or release large quantities of gas/liquid. Extensive instrumentation is also available at this site.

- **Large Vacuum Chamber**: Can produce a vacuum equivalent to a 600,000-foot altitude and is the only large vacuum chamber in the country capable of allowing the entry of full-power, high-energy laser beams.

- **Pulsed Laser Vulnerability Test System:** Operational since June 1992, the Pulsed Laser Vulnerability Test System is a surrogate laser device capable of duplicating many threat tactical laser systems.

- **Laser Demonstration Device:** A 10- to 20-kilowatt mid-infrared chemical laser that provides low-cost laser test capability for customers who do not need the full power of the MIRACL.

- **Optical Maintenance Facility:** Provides on-site capability to characterize, clean, and install optics of any type, from windows to the new un-cooled optics.

Emerging defense systems employing HEL, such as Tactical High Energy Laser, will be tested and evaluated at HELSTF, together with testing of associated subsystems and materials.

The High Energy Laser Systems Test Facility remains the only site capable of supporting a broad spectrum of directed-energy technologies for the Department of Defense, other government agencies, industry, and academia. With its infrastructure and isolated location, HELSTF is the ideal choice to host future new laser technologies, such as free electron or advanced solid-state lasers.

1.03 Organization Structure

USAKA:

1.031 Number of Employees

Military - 24
Civilian - 84
Contractors – Approximately 2800

HELSTF:

1.031 Number of Employees
Military - 1
Civilian - 12
Matrix Military - 1

1.032 Management Structure/Chain of Command
U.S. Army Space & Missile Defense Command
Commanding General (SMDC-ZA)
LTG J. Costello
Space & Missile Defense Acquisition Center (SMDC-AC)
Director - Dr. Linda Gentle (Acting) (256) 955-2742

- U.S Army Kwajalein Atoll/Kwajalein Missile Range (SMDC-AC-K)
  Commander – COL G. McMillen DSN 254-1401
  Commander, Kwajalein Missile Range (SMDC-AC-K-S)
  LTC R. Jones DSN 254-1415
- High Energy Laser Systems Test Facility (HELSTF) Directorate (SMDC-AC-H)
  Director – COL R.J. Nelson (505)679-5041

1.033 Organization Chart
See Attached organizational charts at the end of report.

1.04 Business Area Funding sources:

USAKA:

		(M$)	
	FY97	FY98	FY99
RDTE,A	148.8	124.9	135.0
OPA	0.0	0.5	0.8
OMA	1.7	1.8	0.0
MCA	0.0	0.0	12.6
CUSTOMER	53.6	46.6	57.0
CASH SALES	27.6	28.1	28.3

HELSTF:

		(M$)	
	FY97	FY98	FY99
RDTE,A	23.5	14.0	14.6
OPA	1.8	0.4	1.0

1.05 Major Products and Services:

USAKA:

Conduct Major Range Test Facility Base activities to include:
- Test planning to include advice and assistance
- Sensor data collection for missile and space operations

- Data reduction and analysis
- Local and off-island voice and data communications
- Capability development to include range and customer
- Full range of logistic/community support to include local air, sea and land transportation, utilities, facilities including housing, roads and grounds, engineering services, retail and food operations, education, child care, postal services, community activities, medical services, fire and police services, and emergency operations.

HELSTF:
Provide Directed Energy test and evaluation.

1.06 Major Customers
USAKA:
Army, Ballistic Missile Defense Organization (BMDO), Air Force, USSPACECOM, Navy, NASA, DOE, DOS, CINCPAC, RMI
HELSTF:
Army, Navy, Air Force, Israel, and others.

Section II: Baseline your Cost Management / ABC efforts – (explain your existing Cost Management program, ABC/M or otherwise)

2.01 Overview of your current Business Area Organization's Cost Management /ABC initiatives if any (*include location, size, purpose, software, and POC, etc.*)
The Army Cost Economic Analysis Center had one day of training for the Command that included the Test & Evaluation Business Area. Activity Based Costing training materials have been distributed and individual training is being scheduled.

2.011 Current ABC efforts: USAKA/KMR, as a GOCO operation, currently uses ABC across our government accounts and major contractors to trace resources consumed to activities being performed, allowing informed decision making at multiple levels. This is primarily accomplished through Budget Cost Variance Analysis (BCVA) and other reporting at a detailed Work Breakdown Structure (WBS) level of detail. HELSTF does not have an ABC effort.

2.012 Existing MIS used to manage costs. *CIMS, SOMARDS, MOCAS & CCSS, UDS, and Oracle-based Financial System.*

2.013 Other Cost Measurement Methodology. *Detailed Work Breakdown Structure (WBS) with further detail at DO level, Cost Centers, and application of limited Earned Value Management techniques to manage cost, schedule & performance for range customers*

2.014 Software used. *DBase, Oracle, Excel.*

2.02 Assessment of Employee Cost Management Skills

2.021 Management Level Skills trained to do ABC/M

2.0211 Number with ABC training. (*Certification*): None

2.0212 Number with On the Job training: None

2.22 Staff Level Cost Management Skills Trained to do other CM methodologies. Various CP-11, Acquisition and Earned Value Management courses. ABC training by Army Cost Economic Analysis Center.

2.03 Existing Cost Accounting Systems: CIMS, SOMARDS, MOCAS, CCSS, Oracle Based Financial System

2.031 Location: Kwajalein, RMI & Huntsville, AL (CIMS); DFAS (SOMARDS); Columbus (MOCAS); DFAS (CCSS); Kwajalein/Burlington (RSE); Kwaj/Tulsa (Aeromet); South Carolina/Kwaj (CIS); Massachusetts (MIT/LL); and Florida (Tybrin)

2.032 Type System: dBase, Oracle

2.033 Methodology: Manual and automated cost inputs are linked to performance measures to enable continual process improvement through informed decision making.

2.034 Do they feed a Cost Management or Decision Support System? Yes, they are linked to various systems including contractor partnering sessions and BCVA reviews, monthly budget meetings, QRA's, Program Reviews, After-action Reviews, PPBES, and Strategic/Business Planning sessions.

2.04 Describe Current Performance Management System(s).

2.041 What performance metrics do you use? Various levels, trends and comparisons, including: cost/variance analysis of budget to actuals for direct and indirect labor and materials at WBS level of detail; actual obligation and disbursement rates in comparison to goals; Carryover/Forward Financing as a percent of budget; Cost of Goods/Services Sold over time; Income as a percent of sales; reinvestment rates/cycles for capital expenditures; product/service quality assessments; cycle times for products and services, and many other non-financial metrics used to manage training, personnel, and other functional areas. We are currently in the process of redefining, improving and institutionalizing our performance management systems.

2.042 How do you use your performance metrics to manage? To define requirements, build accurate POM, budget and expenditure plans, enhance execution, measure and analyze variation and make reallocation/reprogramming decisions accordingly, measure progress toward goals and identify required adjustment/actions, and to otherwise systematically evaluate our products and services to facilitate continuous process and product improvement, ensure accountability and credibility, streamline our processes, reduce costs, get more value/quality from existing resources, and leverage outside resources.

2.043 How and what performance measurers support the GPRA? The above performance metrics allow us to: plan what we do; measure progress towards

achieving our goals and objectives; tell our story of what the organization is accomplishing, while ensuring accountability of the resources entrusted to us; recognize and stop actions that don't work; and continuously improve our performance.

2.044 Are your performance measurers aligned with your cost management system? Yes, many of the performance metrics are drawn from our MIS and cost accounting systems, which in-turn feed our cost management and Decision Support Systems. Metrics are assessed, analyzed and acted upon at different levels and regularly reviewed by leadership to facilitate decision making. Some of the formal forums for leadership/management decision making include: regular staff and budget meetings; senior PBACs; Program and Execution Reviews; QRAs; and Strategic and Business Planning Sessions. We are currently in the process of improving our alignment.

Section III: Describe Full Implementation of Cost Management / ABC

3.01 Describe your end-state vision for Cost Management/ABC *(From both Strategic and Operational Perspective).*

3.011 Cost Management *(How will you use Cost Management to drive continuous cost and process improvement?* See 3.012 below. *How will you create a cost management culture?)* See 3.012 below. Through leadership emphasis, training, marketing, and customer/stakeholder/supplier/and total workforce involvement, we expect to achieve the buy-in and ownership necessary to foster an improved cost management culture.

3.012 ABC *(If ABC is cost measurement choice, how will it be used – cost / product improvement, A-76 support, Pricing, etc? And how will you report with it?)* Our existing activity based cost management systems, together with ongoing or currently planned enhancements from application of limited Earned Value Management techniques, integration of the APIC philosophy, and implementation of our Strategic and Business Plans, are deemed appropriate given USAKA/KMR's unique status as a government-owned, contractor-operated major range and test facility with the supporting infrastructure of a small city, yet located on a remote atoll in a foreign country. The systems will continue to be used to allow managers to define activities and measure costs that are relevant to their daily decision making needs. We expect to further optimize cost and quality, achieving best value in our products and services.

3.013 Performance Measurement for Management *(Will you incorporate performance measures with the Balanced Scorecard?* Yes, we are currently developing and refining linkages of operational performance measures to Business Area Strategic Objectives using the Balanced Scorecard approach.

3.014 Quality Program *(Will your performance measures support your APIC program or other if you have one?)* Yes, they will support our APIC program.

3.02 Describe how your Cost Measurement / ABC program will be integrated vertically and horizontally *(in your reporting / authority responsibility)*: See 3.011 above. Additionally, through intensive training of senior leaders, middle

managers, assessment teams, and ultimately, the entire workforce, we are integrating our cost measurement program. Responsibility and accountability will also be fostered through insertion of program objectives into individual performance plans/support forms.

3.03 Provide Statement of Cost Management Goals and Objectives: To continually deliver better quality products and services to customers while continually improving cost –ensuring a best value balance. There are numerous objectives in our Strategic Plan (ref Goals 2 & 3) and under development in our Business Plan that revolve around and are in support of our cost management goals.

Section IV: Describe Plan to Get from Baseline to Full Implementation *(Describe your procedures to achieve implementation at the strategic and operational level.)*

4.01 Describe your Strategic and Operational level Plans as follows:

4.011 Goals and Objectives for Implementation: (See 3.01 & 3.02 above)

4.012 Concepts of Operations *(include methodologies for managing cost):* See 2.01, 2.03, 2.04 and 3.0.

4.013 Size and Scope: Involves all facets of USAKA/KMR including major contractors.

4.014 Roles and Responsibilities: (See 4.015 below)

4.015 Implementation schedule (a three-year timeline of major actions / events): Strategic and Operational Plans are under refinement at this time and schedule is not yet complete; however, we plan to completely integrate them throughout the Command within the next 2.5 years.

4.016 Identify and planned prototypes.

4.017 Describe proposed initial training program – in outline format. *(How many to be trained? How will training resources be leveraged i.e. train-the-trainer, etc.?)* See 4.03 and 4.04 below.

4.018 Identify software requirements *(Software to be centrally procured).* ABC model to be provided by CEAC.

4.019 Define criteria for assessing ABC as cost measurement tool: USAKA/KMR and HELSTF will seek to continually assess and improve our ABC systems by integrating cost and performance measurements/indicators and evaluating them to determine if they meet the criteria of being: useful; balanced; valid; practical; and consistent over time.

4.02 Performance Measurers

4.021 Describe how you will develop performance metrics. See 2.041 above. While metrics already exist, we are continuing to improve them through ongoing development of Strategic and Business Plans.

4.022 How will performance be measured and evaluated. See 2.042 above.

4.023 How will performance measures support continuous improvement i.e. cost, product/services, and process? See 2.04 and Sec III above.

4.024 How will the performance measures be linked to strategic goals and objectives (*i.e. Balanced Scorecard or other*)? The Balanced Scorecard approach will be used; see 3.013 above.

4.03 Indicate how your Cost Management / ABC program will be sustained and improved: Through implementation of APIC; see 4.04 below.

4.04 Explain how you will provide training support for, model building, implementation, and *sustainment (In-house, AAA, or contractor support, ect.)*. We have funded over $300K for contracted support in the past six-months for this training and have completed or currently have ongoing training for senior leaders, middle managers and assessment teams, including both USAKA/KMR staff and contractors. We have hired an APIC coordinator and are currently recruiting a Change Management Specialist to continue facilitation of implementation and sustainment. HELSTF is also implementing APIC.

Section V: Special Considerations:

5.01 List Organizational unique requirements (*software/hardware/training*). As a GOCO, unique requirements are specified in the SOWs of our five major contractors.

5.02 Identify any implementation constraints or obstacles specific to your Organization. As a GOCO, we have agreed to specific cost management and accounting systems, standards and reports. Significant changes can result in expensive contract modifications.

5.03 Specifically describe how your Cost Management / ABC or other Cost Management activities that will relate to and support VAMOSC. Our present Cost Management system allows for detailed billings to meet our missile system operational test customers' needs. Ongoing enhancements through application of limited Earned Value Management techniques and development of automated billing and estimating processes should improve our ability to meet changing VAMOSC requirements.

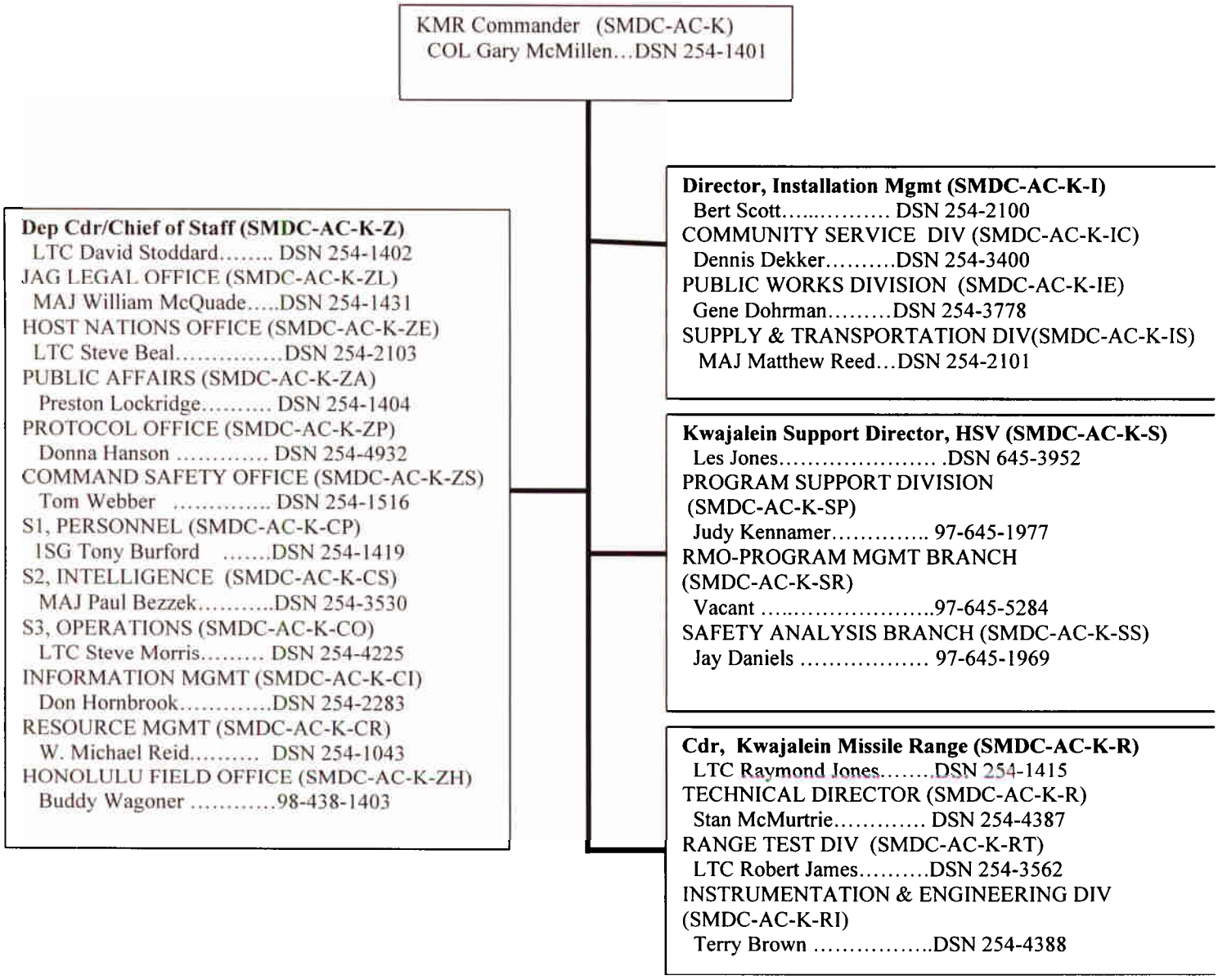
HELSTF ORGANIZATION CHART

Director (SMDC-AC-H)
COL R. J. Nelson (505) 679-5041

Deputy Director (SMDC-AC-H)
Dr. K. O. White (505) 679-5538/5011

Administrative Officer/Security Officer (SMDC-AC-H)
M. C. Foster (505) 679-5041/5011

Customer Support & Test Div (SMDC)AC-H-C)
A. R. Marrujo (505)679-5028


KMR Commander (SMDC-AC-K)
COL Gary McMillen...DSN 254-1401
Dep Cdr/Chief of Staff (SMDC-AC-K-Z)
LTC David Stoddard..... DSN 254-1402
JAG LEGAL OFFICE (SMDC-AC-K-ZL)
MAJ William McQuade.....DSN 254-1431
HOST NATIONS OFFICE (SMDC-AC-K-ZE)
LTC Steve Beal.....DSN 254-2103
PUBLIC AFFAIRS (SMDC-AC-K-ZA)
Preston Lockridge..... DSN 254-1404
PROTOCOL OFFICE (SMDC-AC-K-ZP)
Donna Hanson ..... DSN 254-4932
COMMAND SAFETY OFFICE (SMDC-AC-K-ZS)
Tom Webber ..... DSN 254-1516
S1, PERSONNEL (SMDC-AC-K-CP)
1SG Tony Burford .....DSN 254-1419
S2, INTELLIGENCE (SMDC-AC-K-CS)
MAJ Paul Bezzek.....DSN 254-3530
S3, OPERATIONS (SMDC-AC-K-CO)
LTC Steve Morris..... DSN 254-4225
INFORMATION MGMT (SMDC-AC-K-CI)
Don Hornbrook.....DSN 254-2283
RESOURCE MGMT (SMDC-AC-K-CR)
W. Michael Reid..... DSN 254-1043
HONOLULU FIELD OFFICE (SMDC-AC-K-ZH)
Buddy Wagoner 98-438-1403
Director, Installation Mgmt (SMDC-AC-K-I)
Bert Scott..... DSN 254-2100
COMMUNITY SERVICE DIV (SMDC-AC-K-IC)
Dennis Dekker.....DSN 254-3400
PUBLIC WORKS DIVISION (SMDC-AC-K-IE)
Gene Dohrman.....DSN 254-3778
SUPPLY & TRANSPORTATION DIV(SMDC-AC-K-IS)
MAJ Matthew Reed...DSN 254-2101
Kwajalein Support Director, HSV (SMDC-AC-K-S)
Les Jones..... .DSN 645-3952
PROGRAM SUPPORT DIVISION
(SMDC-AC-K-SP)
Judy Kennamer..... 97-645-1977
RMO-PROGRAM MGMT BRANCH
(SMDC-AC-K-SR)
Vacant 97-645-5284
SAFETY ANALYSIS BRANCH (SMDC-AC-K-SS)
Jay Daniels 97-645-1969
Cdr, Kwajalein Missile Range (SMDC-AC-K-R)
LTC Raymond Jones.....DSN 254-1415
TECHNICAL DIRECTOR (SMDC-AC-K-R)
Stan McMurtrie..... DSN 254-4387
RANGE TEST DIV (SMDC-AC-K-RT)
LTC Robert James.....DSN 254-3562
INSTRUMENTATION & ENGINEERING DIV
(SMDC-AC-K-RI)
Terry Brown .....DSN 254-4388